#11186935 95 ID: 88064853

TN
859
.C64
R564
no.6
sect 1.0-1.1.9

PROGRESS REPORT 6

GEOTECHNICAL DATA GATHERING PROJECT

GEOLOGIC PROGRAM

SECTION 1.1

BLM Library
D-553A, Building 50
Denver Federal Center
P. O. Box 25047
Denver, CO 80225-0047

TO

AREA OIL SHALE SUPERVISOR
UNITED STATES GEOLOGICAL SURVEY

By

RIO BLANCO OIL SHALE PROJECT
Gulf Oil Corporation
and
Standard Oil Company (Indiana)

TABLE OF CONTENTS

	Section Number
GEOTECHNICAL DATA GATHERING PROJECT.	1.0
Geologic Program.	1.1
Corehole Program.	1.1.1
Laboratory Analyses	1.1.2
Stratigraphic Compilation	1.1.3
Aerial Photography.	1.1.4
Compilation of Topographic Maps	1.1.5
Photogeologic Mapping	1.1.6
Surface Geologic Mapping.	1.1.7
Seismic Program	1.1.8
Structural Compilation.	1.1.9

SECTION 1.0

1.0 GEOTECHNICAL DATA GATHERING PROJECT

The geotechnical data gathering project initiated in the spring and summmer of 1974 has been divided into two programs -- the Geologic Program and the Hydrologic Program. Each of these programs has been subdivided into separate tasks as is shown by the work breakdown structure, Figure 1.0-1. Previous progress report summaries were organized such that the status of each of the tasks was reported whether it had been completed or not. This geotechnical data gathering portion of the progress report summary has been structured such that only the status of the tasks in which significant activity occurred during the quarterly reporting period is reported.

Table 1.0-1 is an index in which the tasks and subtasks are listed, showing the specific progress report(s) in which significant reference to any particular task was made.

Major activity during this quarterly reporting period pertaining to the Geologic Program was the receipt of the Fischer assay results from the reassay of the lower portion of coreholes G-S 4-5 and G-S 6; receipt of Fischer assay results for core samples withheld from assay in coreholes G-S 2-3, G-S 4-5, and G-S 6 for rock mechanics testing; finalizing topographic mapping on 84 Mesa located to the north and east of Tract C-a; and the initiation of the preparation of 1,116 feet of core to be split from the G-S 7 core for analysis by the USGS for a complete suite of trace elements.

The activity conducted during the quarterly reporting period under the Hydrologic Program consisted of the ongoing monitoring and sampling of the various stream gaging stations and holes in and around Tract C-a. During the second year of baseline monitoring samples will be collected: monthly for stream gages recording flow; monthly for alluvial aquifer holes during snowmelt runoff and quarterly thereafter; and semi-annually for deep aquifer monitor holes. Water level for each of the deep aquifer and alluvial aquifer monitor holes will be measured monthly.

Fi[illegible] 1.0 - 1

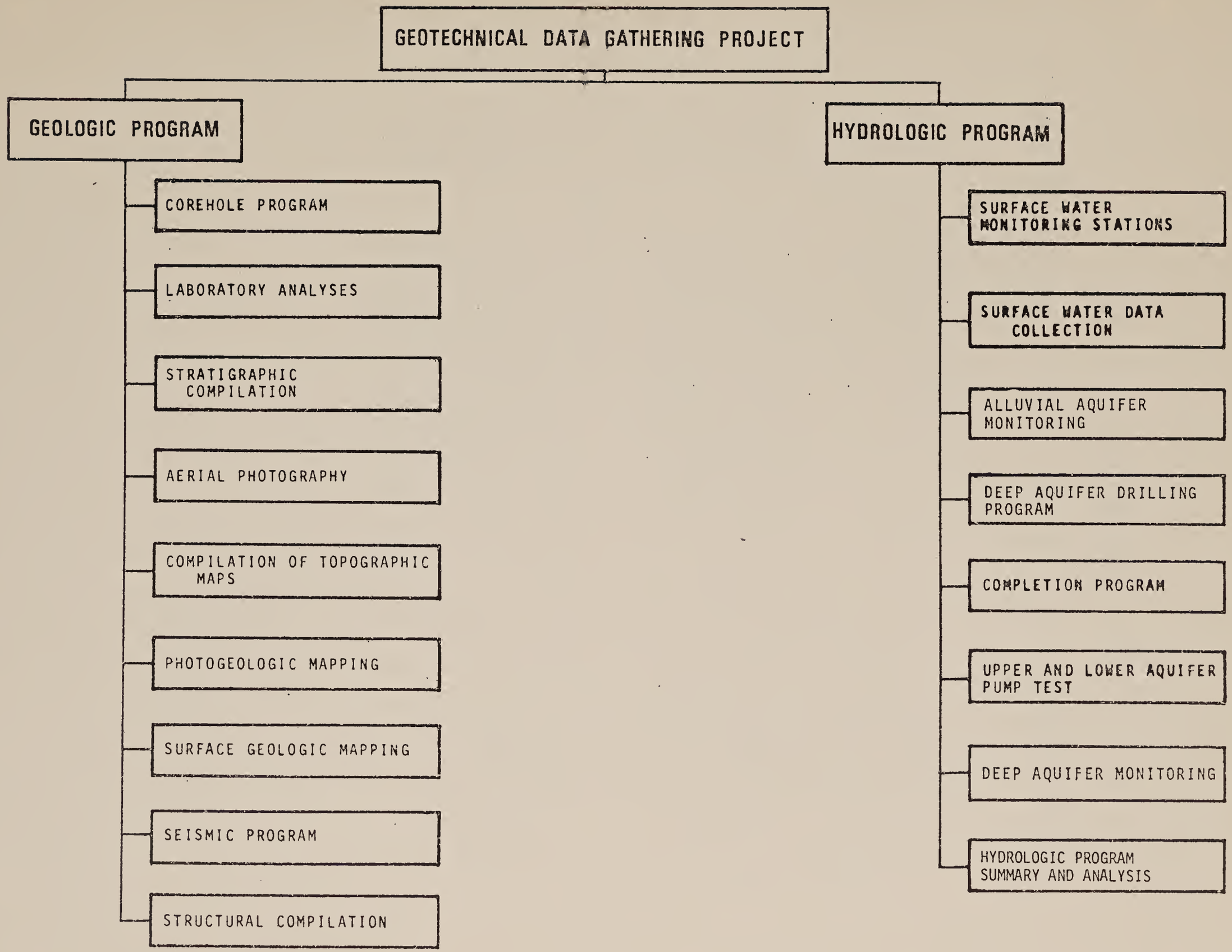
GEOTECHNICAL DATA GATHERING PROJECT
GEOLOGIC PROGRAM
COREHOLE PROGRAM
LABORATORY ANALYSES
STRATIGRAPHIC COMPILATION
AERIAL PHOTOGRAPHY
COMPILATION OF TOPOGRAPHIC MAPS
PHOTOGEOLOGIC MAPPING
SURFACE GEOLOGIC MAPPING
SEISMIC PROGRAM
STRUCTURAL COMPILATION
HYDROLOGIC PROGRAM
SURFACE WATER MONITORING STATIONS
SURFACE WATER DATA COLLECTION
ALLUVIAL AQUIFER MONITORING
DEEP AQUIFER DRILLING PROGRAM
COMPLETION PROGRAM
UPPER AND LOWER AQUIFER PUMP TEST
DEEP AQUIFER MONITORING
HYDROLOGIC PROGRAM SUMMARY AND ANALYSIS

Table 1.0-1

INDEX OF TASKS REPORTED IN PREVIOUS PROGRESS REPORTS

Task	Task	Progress Report(s)
1.1	Geologic Program	
1.1.1	Corehole Program.	2
1.1.2	Laboratory Analyses	2,3,4,5
1.1.2.1	Oil Shale Assays.	2,3,4,5
1.1.2.2	Nahcolite	2
1.1.2.3	Extractable	2
1.1.2.4	Trace Elements.	2,3
1.1.2.5	Gas Samples	2
1.1.2.6	Rock Mechanics.	2,5
1.1.3	Stratigraphic Compilation	3,4,5
1.1.4	Aerial Photography.	2,4,5
1.1.5	Compilation of Topographic Mapping. . .	2,4,5
1.1.6	Photogeologic Mapping	2
1.1.7	Surface Geologic Mapping.	2
1.1.8	Seismic Program	2
1.1.9	Structural Compilation.	2,5
1.2	Hydrologic Program	
1.2.1	Surface Water Monitoring Stations . . .	2,3,4,5
1.2.2	Surface Water Data Collection	2,3,4,5
1.2.3	Alluvial Aquifers	2,3,4,5
1.2.4	Deep Aquifer Drilling Program	2,4,5
1.2.5	Deep Aquifer Completion	2,4
1.2.6	Upper and Lower Aquifer Pumping Tests .	3,4
1.2.7	Deep Aquifer Monitoring	2,3,4,5
1.2.8	Hydrologic Program Summary and Analysis.	4,5

SECTION 1.1

1.1 Geologic Program

Activity during the quarterly reporting period included completing the re-assays of coreholes G-S 4-5 and G-S 6; completing assays of core intervals withheld for rock mechanics testing in coreholes G-S 2-3, G-S 4-5 and G-S 6; finalizing topographic mapping on 84 Mesa; and preparing samples to be analyzed for nine trace elements by the USGS. The activities are described in the following.

1.1.1 Corehole Program

A description of the corehole program was presented in RBOSP Progress Report 2-Summary. The reclamation of twenty-one drill sites was described in RBOSP Progress Report 5. Further activity relating to the corehole program is not anticipated at this time.

1.1.2 Laboratory Analyses

The general objectives of these programs were summarized in Section 1.1.2 of Progress Report 4-Summary. Recent activity is described in the following.

Oil Shale Assays

During the quarterly reporting period re-assays of core samples were completed on the lower intervals of coreholes G-S 4-5 and G-S 6. The re-assaying was begun when confirmation assaying of 45 samples from the two coreholes indicated that re-assaying was necessary. The re-assays were run on the entire interval of zones R-2 through R-5 in each of the two coreholes. The new data replaces the original assay results and will be incorporated into tract zonal grade control. The new data although significantly changing the oil shale grade average within specific zones has not greatly affected the total oil shale interval resource estimates because the changes both increased and decreased the oil shale grade and when averaged over the entire oil shale interval produced a grade average very close to the original figure. The results from the re-assays have been submitted to the Area Oil Shale Supervisor as a part of the confidential portion of RBOSP Progress Report 6.

Core intervals from the Gulf-Standard coreholes originally withheld for rock mechanics testing have been released for assaying in coreholes G-S 2-3, G-S 4-5 and G-S 6. Fischer assays have been completed on those intervals in these three coreholes. Core intervals withheld for rock mechanics testing in coreholes G-S 1, G-S 8, G-S 11, and G-S 15 have not yet been released for assay. All core in G-S 13 is being withheld from assay indefinitely for possible future tests. The Fischer assay data for the core intervals withheld from assay in coreholes G-S 2-3, G-S 4-5, and G-S 6 have been submitted to the Area Oil Shale Supervisor as a part of the confidential portion of RBOSP Progress Report 6.

Trace Element Analysis

During the quarterly reporting period, preparation of core samples to be check-analyzed for nine trace elements by the USGS was initiated. The samples will be analyzed for: antimony, arsenic, cadmium, selenium, mercury, boron, fluoride, molybdenum, and vanadium. The new trace element analysis is to be performed on 1,116 feet of core to be split from the G-S 7 core. Future progress reports will update the status of the trace element analysis by the USGS.

1.1.3 Stratigraphic Compilation

The stratigraphic compilation has been completed and was reported in 1.1.3 of RBOSP Progress Reports 3, 4 and 5-Summaries.

1.1.4 Aerial Photography

Aerial Photography has been completed as described in previous RBOSP Progress Reports for Tract C-a and also for 8,200 acres on 84 Mesa.

SECTION 1.1.5

1.1.5 Compilation of Topographic Maps

Topographic mapping of about 8,200 acres encompassing the 84 Mesa which is located north and east of Tract C-a has been finalized. Copies of the finalized topographic mapping at scales of 1 inch to 500 feet and 1 inch to 200 feet have been submitted to the Area Oil Shale Supervisor under separate cover as a part of Progress Report 6.

1.1.6 Photogeologic Mapping

Photogeologic mapping has been completed as reported in Section 1.1.6 of RBOSP Progress Report 2-Summary.

1.1.7 Surface Geologic Mapping

The surface geologic mapping of about ten square miles has been completed as was reported in Section 1.1.7 of Progress Report 2-Summary.

1.1.8 Seismic Program

The seismic program was discontinued as reported in Section 1.1.8 of RBOSP Progress Report 2-Summary.

1.1.9 Structural Compilation

Structural compilation was revised slightly as was reported in RBOSP Progress Report 5.